oligonucleotides used to screen Alb-SXR mice are 5'-GAGCAATTCGCATTACTCTGAAGT-3' (SEQ ID NO: 36) (annealing to SXR cDNA), and 5'-GTCCTTGGGGTCTTCTACCTTTCTC-3' (SEQ ID NO: 37) (annealing to the SV 40 sequence downstream of the transgene in the transgene cassette). Another two oligonucleotides used to screen Alb-VPSXR are 5'-GACGATTTGGATCTGGACATGTTGG-3' (SEQ ID NO: 38) (annealing to VP16 sequence), and 5'-GTTTTCATCTGAGCGTCCATCAGCT-3' (SEQ ID NO: 40) (annealing to the SXR cDNA). PCR was carried out in a DNA thermal cycler (Perkin-Elmer/Cetus) using the following program: 94°C for 1 min, 58°C for 2 min, and 72°C for 3 min and products were analyzed by electrophoresis on a 1% agarose gel. The transgene integration status was analyzed by Southern blot using transgene specific probes as described before (Xie et al., 1999). --

A marked-up version of the amended paragraphs is attached hereto as APPENDIX A.

IN THE CLAIMS

Please add the following new claims. A complete set of the pending claims as they will stand after entry of the amendments submitted herewith is provided for the Examiner's convenience as APPENDIX B.

39. (New) A transgenic mouse whose genome contains a transgene comprising a gene encoding a human steroid xenobiotic receptor (SXR) polypeptide, or functional fragment of said polypeptide, operably linked to an inducible tissue-specific promoter/enhancer,

wherein said human SXR polypeptide is inducibly expressed in said transgenic mouse in a tissue-specific manner,

wherein said human SXR polypeptide is a member of the steroid/thyroid hormone superfamily and forms a heterodimer with retinoid X receptor,

wherein said heterodimer binds to a direct or inverted repeat response element comprising at least two half sites RGBNNM separated by a spacer of 0 up to 15 nucleotides,

wherein:

R is selected from A or G;

B is selected from G, C, or T;

each N is independently selected from A, T, C, or G; and

M is selected from A or C;

with the proviso that at least 4 nucleotides of said RGBNNM sequence are identical with the nucleotides at corresponding positions of the sequence AGTTCA; and

wherein compounds selected from the group consisting of natural and synthetic steroid hormones including at least compounds that induce catabolic enzymes, steroid receptor agonists and antagonists, and bioactive dietary compounds, interact with said human SXR polypeptide directly or indirectly to activate transcription of a gene under the control of a cytochrome P450 response element therefore.

40. (New) A transgenic knock-out mouse whose genome comprises a homozygous disruption in an endogenous mouse SXR polypeptide gene, wherein said homozygous disruption comprises insertion, deletion or point mutation of said mouse SXR polypeptide, wherein said disruption results in a decrease in transcription of a gene under the control of a cytochrome P450 response element mediated by said mouse SXR polypeptide in said transgenic knockout mouse as compared to a wild-type mouse.

41. (New) A method for producing a transgenic mouse, said method comprising:

injecting a one-cell mouse zygote with a transgene comprising a gene encoding a human steroid xenobiotic receptor (SXR) polypeptide, or functional fragment of said polypeptide, operably linked to an inducible or a constitutively active tissue-specific promoter/enhancer,

wherein said human SXR polypeptide is inducibly or constitutively expressed in said transgenic mouse in a tissue-specific manner,

wherein said human SXR polypeptide is a member of steroid/thyroid hormone superfamily and forms a heterodimer with retinoid X receptor,

wherein said heterodimer binds to a direct or inverted repeat response element comprising at least two half sites RGBNNM separated by a spacer of 0 up to 15 nucleotides,

wherein:

R is selected from A or G;

B is selected from G, C, or T;

each N is independently selected from A, T, C, or G; and

M is selected from A or C;

with the proviso that at least 4 nucleotides of said - RGBNNM - sequence are identical with nucleotides at corresponding positions of the sequence AGTTCA,

wherein compounds selected from the group consisting of natural and synthetic steroid hormones including at least compounds that induce catabolic enzymes, steroid receptor agonists and antagonists, and bioactive dietary compounds, interact with said human SXR polypeptide directly or indirectly to activate transcription of a gene under the control of a cytochrome P450 response element therefore, and

obtaining a transgenic mouse from said mouse zygote, wherein said transgene is incorporated into the genome of said transgenic mouse and wherein said transgenic mouse expresses said human SXR polypeptide.

42. (New) A transgenic mouse whose genome contains a transgene comprising a gene encoding a human steroid xenobiotic receptor (SXR) polypeptide, or functional fragments of said polypeptide, operably linked to a constitutively active tissue-specific promoter/enhancer,

wherein said human SXR polypeptide is constitutively expressed in said transgenic mouse in a tissue-specific manner,

wherein said human SXR polypeptide is a member of the steroid/thyroid hormone superfamily and forms a heterodimer with retinoid X receptor,

wherein said heterodimer binds to a direct or inverted repeat response element comprising at least two half sites RGBNNM separated by a spacer of 0 up to 15 nucleotides,

wherein:

R is selected from A or G;

B is selected from G, C, or T;

each N is independently selected from A, T, C, or G; and

M is selected from A or C;

with the proviso that at least 4 nucleotides of said RGBNNM sequence are identical with the nucleotides at corresponding positions of the sequence AGTTCA; and

wherein compounds selected from the group consisting of natural and synthetic steroid hormones including at least compounds that induce catabolic enzymes, steroid receptor agonists and antagonists, and bioactive dietary compounds, interact with said human SXR polypeptide directly or indirectly to activate transcription of a gene under the control of a cytochrome P450 response element therefore.